

trical induction, having at present nothing before them, were discharged.

The list of members appointed to write obituary notices of deceased members of the Society, was read.

Dr. Patterson drew the attention of the Society to a specimen of what is technically called a "grain" of gold, found on the lands of a Virginia gentleman, Mr. David R. Pulliam, in Spotsylvania County: its weight was  $25\frac{1}{2}$  ounces: the quality of the gold, 897.5 thousandths by standard. The specific gravity of the gold was found to be 17.87. The specific gravity of the whole mass was 14.87; the value of the gold in it is \$456.54, which was determined by the problem of Archimedes. Dr. Patterson referred to cases of grains of gold found in this country, which are on record in the Manual of Coins by Messrs. Eckfeldt and Du Bois, and to others found in other countries.

Professor Frazer mentioned one found in 1843, in the Ural mountains, described by Baron Humboldt in the *Annales de Chimie*, Tom. VII., which is the largest on record, weighing over 72 lbs. avoirdupois.

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*Stated Meeting, April 18.*

Present, twenty-seven members.

Dr. BACHE, Vice-President, in the Chair.

Letters were received and read:—

From the Royal Asiatic Society, dated London, 2d November, 1844, acknowledging the receipt of the Transactions and Proceedings of the Society:—

From the Society of Antiquaries of London, dated London, 29th November, 1844, accompanying a donation of certain works to this Society:—

From Mr. C. A. Le Sueur, dated Havre, 14th February, 1845, accompanying a donation of Geological Views of the *Falaises* at the Cape of Laheve, near Havre:—and

From the American Minister at the Court of St. James, Mr. Everett, dated London, 14th March, 1845, in relation to the

next meeting of the *Scienziati Italiani*, which takes place at Naples, on the 20th September next.

The following donations were announced:—

FOR THE LIBRARY.

- Archæologia ; or, Miscellaneous Tracts, relating to Antiquity. Published by the Society of Antiquaries of London. Vol. XXX. London, 1844. 4to.—*From the Society of Antiquaries.*
- An Index to Archæologia. From Vol. XVI. to Vol. XXX., inclusive. Published by the Society of Antiquaries of London. London, 1844. 4to.—*From the same.*
- Monthly Notices of the Royal Astronomical Society of London. Vol. VI. Nos. 9, 10, 11. 8vo.—*From the Royal Astronomical Society.*
- Memoir of Francis Baily, Esquire, D.C.L., Oxford and Dublin, &c. &c. By Sir John F. W. Herschel, Bart. London, 1845. 8vo. *From the same.*
- Annales des Mines. Quatrième Série. Tome V. 3e Livraison de 1844. Tome VI. 4e Livraison de 1844. 8vo.—*From the Engineers of Mines, Paris.*
- Journal Asiatique. Quatrième Série. Tome IV. No. 19. Novembre, 1844. 8vo.—*From the Asiatic Society of Paris.*
- The American Journal of Science and Arts. Vol. XLVIII. No. 2. April, 1845. 8vo.—*From the Editors.*
- L'Art de Vérifier les Dates, depuis l'année 1770, jusqu'à nos jours. Publié par M. le Marquis de Fortiu. Tome XVIII. Paris, 1844. 8vo.—*From D. B. Warden, Esq.*
- Mélanges, par J. C. F. Ladoucette. Seconde édition. Paris, 1845. 8vo.—*From the Author.*
- The Electrical Magazine. Conducted by Mr. Charles V. Walker. Vol. I. No. 7. January, 1845. 8vo.—*From the Editor.*
- The Zoologist ; a Popular Monthly Magazine of Natural History. Nos. 25 and 26. 8vo.—*From Edward Newman, Esq.*
- The Phytologist ; a Botanical Journal. Nos. 44 and 45. January and February, 1845. 8vo.—*From the same.*
- The American Journal of the Medical Sciences. Edited by Isaac Hays, M.D. New Series. No. XVIII. April, 1845. 8vo. *From the Editor.*
- Curtii Sprengelii facultatis medicæ Halensis senioris Opuscula Academica collegit, edidit, vitamque auctoris breviter enarravit Julius Rosenbaum, M.D. Viennæ, 1844. 8vo.—*From Dr. Hays.*

The Annual Report of the Board of Directors of the Pennsylvania Institution for the Deaf and Dumb, for 1844. Philadelphia, 1845. 8vo.—*From the Directors.*

A Report to the Navy Department of the United States, on American Coals applicable to Steam Navigation, and to other purposes. By Walter R. Johnson. 8vo.—*From the Navy Department.*

Reports of the Majority and Minority of the Committee on Internal Improvements, relative to granting the Baltimore and Ohio Railroad the right of way through Pennsylvania. Harrisburg, 1845. 8vo.—*From C. B. Trego, Esq.*

Vues et Coupes du Cap de la Hève; Plan du littoral du Cap de la Hève, etc. etc. A lithographic view of the Cape near Havre, in France. By C. Lesueur.—*From the Author.*

ADDITIONS TO THE LIBRARY BY PURCHASE.

Comptes Rendus Hebdomadaires des Séances de l'Académie des Sciences. Tome XIX. Nos. 22 to 27, inclusive. 4to.

Astronomische Nachrichten. No. 526. 4to.

Dr. Hays was excused from the duty of preparing an obituary notice of Mr. Keating.

Dr. Patterson adverted again to the subject of grains of gold, and read from the Annales de Chimie, the account of the grain referred to by Professor Frazer at the last meeting. It weighed 23,159 dwts. Its fineness was not given, but its probable value was over 23,000 dollars.

Dr. Patterson then drew attention to a comparison between the value of the French standard kilogramme and our own weights, as deduced from the various weighings of French gold at the Mint—which comparison, he remarked, although not as accurate as those made for scientific purposes, was still sufficiently so to give to it interest and commercial importance.

On 14th May, 1836, an invoice of French indemnity gold was received at the Mint, consisting (besides coins) of 28 bars.

The weight stated by the French Mint was 296.1607 kilogrammes. At our Mint, weighing to the nearest dwt. the weight found was 793.5 lbs. Hence the weight of the kilogramme is deduced 2.6792767 lbs., or 15432.63379 grains. In weighing gold and silver the pound Troy is alone used.

Mr. Hassler's direct comparison of the standards gives 2.679367 lbs., or 15433.15902 grains. The difference between the two is 0.525228 grains.

The two first weighings were upon a beam considered less capable of accuracy than that used in the remaining eight. The mean of the last eight weighings gave as the value of the kilogramme 2.678844 lbs., or approximately 2.6789 lbs. A number easily remembered from the peculiar order of the decimal figures.

2.6789 lbs. is equivalent to 15430.464 grains, which is less than Mr. Hassler's determination by 2.695 grains.

It was to be expected that the weighing here would fall short of the weighing in France, on account of the handling and rubbing which the bars must necessarily undergo in transportation. On the other hand, Mr. Hassler's result is probably too high.

The result obtained upon comparison by the French Minister of the Interior, for the kilogramme, was

|                                       |   |   |   |           |
|---------------------------------------|---|---|---|-----------|
| the Interior, for the kilogramme, was | - | - | - | 15432.719 |
| By Dr. Moll,                          | - | - | - | 15432.265 |
| By Weber, at Berlin, by platinum,     | - | - | - | 15432.082 |
| By Hassler,                           | - | - | - | 15432.634 |

15432 grains will correspond exactly to 643 dwts., or 32.15 oz., or 2.67916 lbs.

Upon 4th January, 1843, a deposit of French gold was made at the Mint by Mr. August Belmont.

The weights of the kilogramme deduced from the three weighings were respectively, 32.15494, 32.15282, 32.15780 oz.: mean 32.15487 oz., equivalent to 643.097 dwts., or 15434.337 grains, which gives an excess to the value of the kilogramme of about 2 grains.

Dr. Hays announced the death of Dr. Lorenzo Martini, of Turin, a member of this Society.

Mr. Kane having expressed a desire to be excused from serving upon the Committee on the revision of the By-laws, Mr. Dillingham was appointed upon that Committee in his stead.

The Prince of Canino and Musignano of Rome, was invited to represent this Society at the meeting of the *Scienziati Italiani* of Naples, on the 20th September next.

Mr. EDWARD MILLER, Civil Engineer, of Philadelphia, was elected a member of the Society.